

What is claimed is:

1. A microorganism strain belonging to *Streptomyces cyaneoegriseus* subspecies noncyanogenus and having ability to produce C-13 glycosidated nemadectin.

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2. The microorganism strain according to claim 1 wherein the microorganism strain having ability to produce C-13 glycosidated nemadectin is *Streptomyces cyaneoegriseus* subsp. noncyanogenus ΔnemA4::vph attB<sub>TG1</sub>::aveA4-aveA3-aveE attBφ<sub>c31</sub>::aveR

10 attB<sub>R4</sub>::aveBI-BVIII (FERM BP-8394).

3. A microorganism strain belonging to *Streptomyces cyaneoegriseus* subspecies noncyanogenus and having ability to produce C-13 hydroxylnemadectin.

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4. The microorganism strain according to claim 3 wherein the strain having ability to produce C-13 hydroxylnemadectin is *Streptomyces cyaneoegriseus* subspecies noncyanogenus ΔnemA4::vph attB<sub>TG1</sub>::aveA4-aveA3-aveE attBφ<sub>c31</sub>::aveR (FERM  
20 BP-8395).

5. A process for manufacturing C-13 hydroxylnemadectin comprising culturing a microorganism belonging to *Streptomyces cyaneoegriseus* subspecies noncyanogenus and having ability to produce C-13 hydroxylnemadectin in a medium, producing and accumulating C-13 hydroxylnemadectin in a culture medium, and collecting C-13 hydroxylnemadectin from the cultured mass.

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6. A process for manufacturing C-13 glycosidated nemadectin

comprising culturing a microorganism belonging to *Streptomyces cyaneoegriseus* subspecies noncyanogenus and having ability to produce C-13 glycosidated nemadectin in a medium, producing and accumulating C-13 glycosidated nemadectin in a culture medium,  
5 and collecting C-13 glycosidated nemadectin from the cultured mass.

7. A microorganism belonging to *Streptomyces cyaneoegriseus* subspecies noncyanogenus, maintaining gene groups of avermectin  
10 aglycon biosynthesis of *Streptomyces avermitilis* and having ability to produce C-13 hydroxylnemadectin.

8. A manufacturing method of the microorganism described in claim 7 belonging to *Streptomyces cyaneoegriseus* subspecies  
15 noncyanogenus, maintaining gene groups of avermectin aglycon biosynthesis of *Streptomyces avermitilis* and having ability to produce C-13 hydroxylnemadectin.

9. A microorganism belonging to *Streptomyces cyaneoegriseus* subspecies noncyanogenus, maintaining gene groups of avermectin  
20 aglycon biosynthesis of *Streptomyces avermitilis* and having ability to produce C-13 glycosidated nemadectin

10. A method for preparation of the microorganism described in claim 9 belonging to *Streptomyces cyaneoegriseus* subspecies noncyanogenus, maintaining gene groups of avermectin aglycon biosynthesis of *Streptomyces avermitilis* and having ability to produce C-13 glycosidated nemadectin.

11. A nemadectin non-producing microorganism strain belonging to *Streptomyces cyaneogriseus* subspecies *noncyanogenus* and inserting viomycin resistant gene in the region coding nemadectin aglycon biosynthesis genes *nemA3-4* operon KS10 (KS10  
5 insertion mutant).

12. The microorganism strain according to claim 11 wherein the nemadectin non-producing microorganism strain is *Streptomyces cyaneogriseus* subspecies *noncyanogenus*  $\Delta$ *nemA4::vph* (FERM  
10 BP-8393).

13. A microorganism strain belonging to *Streptomyces cyaneogriseus* subspecies *noncyanogenus*, maintaining avermectin aglycon biosynthesis genes *aveA3-4* of *Streptomyces avermitilis*  
15 in the KS10 insertion mutant, and having ability to form a hybrid PKS with *NemA1-2* and *AVES3-4*.

14. A microorganism strain belonging to *Streptomyces cyaneogriseus* subspecies *noncyanogenus* and having ability to  
20 form a hybrid PKS with *NemA1-2* and *AVES3-4*, wherein the microorganism strain maintains a regulator gene *aveR* of avermectin biosynthesis genes of *Streptomyces avermitilis*.

15. A microorganism strain belonging to *Streptomyces cyaneogriseus* subspecies *noncyanogenus* and having ability to  
25 form a hybrid PKS with *NemA1-2* and *AVES3-4*, wherein the microorganism strain maintains a regulator gene *aveR* of avermectin biosynthesis genes and an avermectin glycosidation and an oleandrose biosynthesis genes *aveBI-BVIII* of *Streptomyces*

*avermitilis.*